REMARKS

Claims 1-20 are currently pending. Claims 1, 8 and 15 have been amended herein. Reconsideration and allowance of the pending claims are respectfully requested by Applicants.

CLAIM REJECTIONS

35 U.S.C. § 103(a)

Claims 1, 3-7, 15 and 17-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Webster, United States Patent Number 5,307,351 in view of Dziong, United States Patent Number 6,625,155. Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 1, 3-7, 15 and 17-20 is not anticipated nor rendered obvious by Webster and Dziong, alone or in combination, in view of the following rationale.

Independent Claims 8 and 15 recite similar limitations. Claims 3-7 that depend from Claim 1 and Claims 17-20 that depend from Claim15 provide further recitations of the features of the present invention.

Applicants respectfully direct Examiner to amended independent Claim 1 that recites an embodiment of the present invention.

Claim 1 recites:

> In a computer network, a method for predicting an optimum transmission frame length, comprising:
> assessing transmission channel quality in said computer network, said assessing comprising;
> obtaining a bit error rate for a previous transmission; and
> obtaining an optimum frame length for said previous transmission;
> calculating an optimum length for said transmission frame, said calculating comprising;
> measuring a new bit error rate; and
> obtaining an assessed random processing noise;

adjusting the length of said transmission frame, said adjusting predicated on said bit error rate and said optimum frame length for said previous transmission and said new bit error rate and said assessed random processing noise;

transmitting said transmission frame of said adjusted length; and

assessing the quality of said transmission of said transmission frame, wherein said transmission channel quality is assessed recursively using a Kalman filter.

Thus. Applicant's invention is directed to a method for dynamically predicting the optimum frame length of a transmission frame. Applicant's invention incorporates a previous bit error rate and previous optimum frame length of a previous transmission frame with a new bit error rate and assessed random processing noise for determining the optimum frame length.

Webster and the claimed invention are substantially different. Applicant understands Webster to suggest a method of adjusting frame length that is based on a "retry rate", the ratio of the number of frames sent and the number of frames lost, e.g., the number of frames retransmitted (Col. 4, line 8 to Col. 5, line 11). As understood by Applicants, Webster does not disclose adjusting frame length that is based on bit error rate and optimum frame length of both a previous and current transmission frame in conjunction with an assessed random processing noise, as recited in Claim 1.

Further, as understood by Applicants, Webster does not suggest, teach or describe a manner for predicting optimum frame length. Webster, as understood by Applicants, discloses adjusting frame length as a function of the retry rate. As such, Applicants respectfully assert that Webster does not suggest, teach or describe the limitations as recited in Claim 1.

Continuing, Webster, as understood by Applicant, discloses assessing channel quality, calculating the frame length, adjusting the length, and assessing the quality of the transmission based on the retry rate.

However, as understood by Applicants, Webster does not teach, suggest or describe adjusting frame length "assessing transmission channel quality in said computer network, said assessing comprising; obtaining a bit error rate for a previous transmission; and obtaining an optimum frame length for said previous transmission; calculating an optimum length for said transmission frame, said calculating comprising; measuring a new bit error rate; and obtaining an assessed random processing noise; adjusting the length of said transmission frame, said adjusting predicated on said bit error rate and said optimum frame length for said previous transmission and said new bit error rate and said assessed random processing noise" as recited in amended Claim 1. Claims 8 and 15 comprise similar limitations.

Dziong does not remedy the shortcomings of Webster. As understood by Applicants, Dziong discloses in the abstract "Tuning for connection admission control (CAC) algorithms... using an overbooking technique based on aggregate effective bandwidth (AEBW)..." Dziong further discloses an algorithm for the overbooking gain that uses a cell rate mean (M) and a cell rate variance (V) in equation 1 (Col. 2, lines 40-41). Dziong further discloses "well known Kalman techniques advantageously applied to optimally estimate M and V based on measurements and declarations" (Col. 2, lines 48-53). Dziong additionally discloses variables, e.g., nominal effective bandwidth, maximum actual effective bandwidth, actual effective bandwidth, tuned effective bandwidth and bandwidth available for overbooking that are used in the estimation (Col. 4, line 61 to Col. 5, line 11). Nowhere does Dziong disclose the use of channel transmission quality nor does Dziong disclose the manner in which the frame length is adjusted as recited in the limitations of amended Claim 1. Applicants respectfully assert that Dziong discloses using a Kalman filter to estimate a mean and variance rather that implementing

a Kalman filter to recursively assess channel transmission quality as recited by amended Claims 1, 8 and 15.

Thus, Applicants respectfully assert that Dziong does not overcome the shortcomings of Webster. Therefore, Applicants respectfully submit that Webster and Dziong, alone or in combination, do not show nor suggest "assessing transmission channel quality in said computer network, said assessing comprising; obtaining a bit error rate for a previous transmission; and obtaining an optimum frame length for said previous transmission; calculating an optimum length for said transmission frame, said calculating comprising; measuring a new bit error rate; and obtaining an assessed random processing noise; adjusting the length of said transmission frame, said adjusting predicated on said bit error rate and said optimum frame length for said previous transmission and said new bit error rate and said assessed random processing noise" as recited in amended Claims 1, 8 and 15, and that these claims are considered patentable over Webster and Dziong, alone or in combination. Because Claims 3-7 depend on Claim 1 and Claims 17-20 depend on Claim 15 and contain additional limitations that are patentably distinguishable over Webster and Dziong, alone or in combination, these claims are also considered patentable of Webster and Dziong, alone or in combination. Therefore, Applicants respectfully submit that the basis for rejecting Claims 1, 3-7, 15 and 17-20 under 35 U.S.C. § 103(a) has been overcome.

35 U.S.C. § 103(a)

Claims 2, 8-14, and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Webster, United States Patent Number 5,307,351 in view of Dziong, United States Patent Number 6,625,155 in view of Johnson et al., United States Patent Number 6, 463, 074,

hereinafter Johnson. Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 2, 8-14, and 16 is not anticipated nor rendered obvious by Webster and Dziong and Johnson, alone or in combination, in view of the following rationale.

Johnson discloses a technique for a time division multiplex system for access to a shared communication media on a demand basis (Abstract). As understood by Applicants, nowhere does Johnson disclose adjusting frame length in a transmission frame as required in Claims 1, 8 and 15. Johnson, as understood by Applicants, discloses discarding data frames that fail a forward error connection process and only those data frames that are successfully decoded are passed up to a higher layer (Abstract). While Johnson may discuss the technique in a wireless implementation, Johnson is silent with regard to adjusting frame length.

Therefore, Applicants respectfully assert that Johnson does not overcome the shortcomings of Webster and Dziong, alone or in combination. Further, Johnson does not recite "assessing transmission channel quality in said computer network, said assessing comprising; obtaining a bit error rate for a previous transmission; and obtaining an optimum frame length for said previous transmission; calculating an optimum length for said transmission frame, said calculating comprising; measuring a new bit error rate; and obtaining an assessed random processing noise; adjusting the length of said transmission frame, said adjusting predicated on said bit error rate and said optimum frame length for said previous transmission and said new bit error rate and said assessed random processing noise" as recited in amended Claims 1, 8 and 15. Further, Applicants respectfully assert that Claim 2, being dependent upon an allowable base claim, is in condition for allowance. Claim 8 is also believed to be allowable. As Claims 9-14 depend from allowable independent Claim 8, Claims 9-14 are in condition for allowance.

Further, as Claim 16 depends from allowable independent Claim 15, Claim 16 is in condition for allowance.

Therefore, Applicant respectfully asserts that nowhere does Webster and Dziong and Johnson, alone or in combination, suggest, teach or describe the claimed embodiments of the present invention as recited in independent Claims 1, 8 and 15 and that these claims overcome the rejection under 35 U.S.C. § 103(a), and that these claims are thus in condition for allowance. Further, Applicant respectfully asserts that nowhere does Webster and Dziong and Johnson, alone or in combination, suggest or teach the additional claimed features of the present invention as recited in Claims 2-7 that depend from independent Claim 1, Claims 9-14 that depend from independent Claim 8 and Claims 16-20 that depend from independent Claim 15. Therefore Applicants respectfully submit that Claims 2-7, 9-14 and 16-20 overcome the rejection under 35 U.S.C. § 103(a), and are in a condition for allowance as being dependent upon an allowable base claim.

Conclusion

In light of the above amendments and remarks, Applicants respectfully request reconsideration of the rejected claims. Based on the amendments and arguments presented above, Applicants respectfully request that Claims 1-20 overcome the rejections of record and. therefore, Applicants respectfully solicit allowance of these Claims.

The Examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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